## DUST REGOLITH *ROOM 120*

| | | |
|---|---|---|
| Edwin Bernardoni | 1 | Characterizing Lunar Dust Impact Plumes |
| Wesley Chambers | 2 | Exhaust-regolith interactions: analysis of the instability threshold for the Moon, Mars, and Phobos |
| Kevin Chou | 3 | Experimental Investigations on Insulating Material Charging in a Dusty Plasma Environment |
| Marc Fries | 4 | The Strata-1 Experiment on Fundamental Regolith Processes in Microgravity |
| David Glenar | 5 | Earthshine as an Illumination Source at the Moon |
| Donald Hendrix | 6 | Determining the Correlation Between Mineral Surface Defect Sites Produced Via Mechanical Alteration and Their Capability to Gene |
| Mikhail Kreslavsky | 7 | Thermal Levitation of Dust in Microgravity Environments |
| Carey Legett | 8 | The applicability of effective medium approximations to space weathered mineral grains |
| Brian O'Brien | 9 | Recent Measurements and Models of Movements of Lunar Dust: Measurements by Apollo 12 Dust Detector Experiment (DDE) |
| Marcus Piquette | 10 | The effect of asymmetric surface topography on dust dynamics on airless bodies |
| Cody Schultz | 11 | Structural and Mechanical Properties of Asteroid Regolith Simulant |
| Zach Ulibarri | 12 | Laboratory study of hypervelocity impact-driven chemical reactions and surface evolution of icy targets |

## VOLATILES *ROOM 120*

| | | |
|---|---|---|
| Ariel Deutsch | 13 | Polar Volatiles on the Moon and Mercury: Insights from Comparisons |
| Casey Honniball | 14 | Water absorption at 6 microns: A new tool for remote measurements of Lunar surface water abundance and variation. |
| Brant Jones | 15 | Photon-stimulated removal and production of water from regolith surfaces. |
| Pascal Lee | 16 | Water Extraction from Hydrated Sulfates from Haughton Crater, Devon Island, Arctic: Implications for ISRU on Asteroids and Mars1 |
| Ralph Milliken | 17 | An Updated View of Water on the Moon as Seen by the Moon Mineralogy Mapper |
| Gerald Patterson | 18 | Mini-RF S- and X-band Bistatic Observations of the Floor of Cabeus Crater |

## ASTEROIDS-NEO CHARACTERIZATION *ROOM 120*

| | | |
|---|---|---|
| Kathryn Bryson | 19 | Meteorite Fractures and Scaling for Asteroid Strength Estimates |
| Hannah Kaplan | 20 | Reflectance Spectroscopy of Organic-Bearing Rocks and Meteorites with Applications to Planetary Missions |
| Daniel Ostrowski | 21 | Meteorite Physical Properties used to Characterize Parent Bodies |
| Gerard Rodriguez Lopez | 22 | Dehydration and Solar Wind Ion Irradiation of Sodium and Ammonium Carbonates on the Surface of Main Belt Asteroids |
| Alexander Sehlke | 23 | Similarities between ejecta blocks from Kings Bowl crater (Idaho) and boulders on NEA Eros: Some Preliminary Results |
| Alessondra Springmann | 24 | Results of Coordinate Multiwavelength Observational Campaign of Two Jupiter-Family Comets |
| Jordan Young | 25 | Spectral variation of polycyclic aromatic hydrocarbons as an indicator of thermal alteration of ordinary chondrite parent bodies |
| William Yu | 26 | Numerical Simulation of Dust Dynamics around Irregularly Shaped Small Asteroids |

## GEOCHEMISTRY-PETROLOGY *ROOM 120*

| | | |
|---|---|---|
| Charles-Edouard Boukaré | 27 | Solid-state mantle dynamics during magma ocean crystallization: Implications for the early geochemical evolution of terrestrial |
| Darby Dyar | 28 | Mapping Redox State and Oxygen Fugacity at Micro-Scales in Lunar Glass Beads |
| Darby Dyar | 29 | Predicting Oxygen Fugacity in Silicate Glasses from X-ray Absorption Spectroscopy: A Multivariate Approach |
| N/A | 30 | This poster has been withdrawn |
| Kyeong Kim | 31 | Comparative geochemical analysis of volcanic rocks from the COM & KB, Idaho, USA and Mt. Baekdu & Uleung Island, Korea |
| Melissa Sims | 32 | Pressure-Induced Amorphization in Plagioclase Fieldspars: A Time-Resolved Powder Diffraction Study During Rapid Compression |

## GEOLOGY *ROOM 120*

| | | |
|---|---|---|
| Jennifer Heldmann | 33 | FINESSE: Field Investigations to Enable Solar System Science and Exploration |
| Erica Jawin | 34 | The Prinz-Harbinger Medium-Scale (80 km-diameter) Shield Volcano: A Transition in Lunar Volcanic Eruption Style |
| Zachary Morse | 35 | Mapping and Analysis of Ejecta Deposits from Orientale Basin on the Moon |
| Seiichi Nagihara | 36 | Implications of the recently restored Apollo Heat Flow Experiment data from 1975 to 1977 |
| Deanna Phillips | 37 | Analysis of Rediscovered Data from Apollo 17's Lunar Seismic Profiling Experiment: Evidence for Events Associated with Sunrise |
| Erika Rader | 38 | Using volcanic spatter to contain eruptions at the Marius Hills on the Moon. |
| Alexander Sehlke | 39 | Inferred Thermo-Physical Properties of Lava Flows – Implications for Remote Sensing of Planetary Terrains. |
| Alexander Sehlke | 40 | Rheology and thermal budget of lunar basalts: an experimental study and its implications for sinuous rille formation on the Moon |

## EDUCATION AND PUBLIC OUTREACH/CITIZEN SCIENCE *ROOM 120*

| | | |
|---|---|---|
| Lora Bleacher | 41 | Training the Next Generation of Exploration Scientists via the Education and Engagement Efforts of SSERVI's DREAM2 Team |
| Andrea Jones | 42 | Update on FINESSE Education and Public Outreach |
| Alexandra Matiella Novak | 43 | Engaging the Public and Education Community with Solar System Science and Exploration |
| Cassandra Runyon | 44 | Understanding Small Bodies in Our Solar System Through Problem-Based Learning |
| Andrew Shaner | 45 | Advise high school researchers? Yes you can! |
| Chanel Vidal | 46 | Benefit of Involving Young Students in NASA Field Work |
| Nicole Whelley | 47 | RIS4E Science Journalism Program |
| Dennis Wingo | 48 | Lunar Orbiter Image Recovery Project Wrap Up, Images, PDS, and Public Data Release |
| Student LPI | 49 | Mapping Possible Locations for Lunar Ice Mining Based on Topographic, Economic, and Elemental Data |
| Student LPI | 50 | Secondary Crater Morphology with Distance From Primary Crater Abstract |
| Student LPI | 51 | A Comparison of the Chesapeake Bay Impact Structure and the Arizona Barringer Crater: Determining the effects of velocity, composition, size, and location of impact on the crater of the meteorite |
| Student LPI | 52 | Possible Correlation Between Lunar Rille Width and Depth, Sinuosity and Leng |

## HUMAN EXPLORATION AND DESTINATION DRIVERS *ROOM 120*

| | | |
|---|---|---|
| David Burtt | 53 | Portable X-Ray Fluorescence Spectroscopy: Handheld instrument applications for science-driven exploration |
| Sarah Crites | 54 | Effectiveness of inflatable gas-filled structures as radiation shielding for human exploration and habitation beyond Earth |
| John Horack | 55 | Engineering Research to Fortify Human Exploration of the Solar System |
| Gen Ito | 56 | Spectral Properties of Potrillo Volcanic Field, NM and Incorporation of Spectral Imaging into Planetary Geological Field Work |

| | | |
|---|---|---|
| Darlene Lim | 57 | Scientific analogs and the development of human mission architectures for the Moon, deep space and Mars. |
| Margaret Race | 58 | Developing Planetary Protection Requirements for Human Missions Beyond Earth Orbit |
| Rahul Rughani | 59 | Lava Tube Mapping and Exploration |
| Brent Sherwood | 60 | Science for Moon Village |
| Madhu Thangavelu | 61 | Lava Tube Mapping and Exploration |
| Madhu Thangavelu | 62 | MPIT: Minimally Processed ISRU Technology Structures For Rapid Extraterrestrial Settlement Infrastructure Development |
| Madhu Thangavelu | 63 | Project ASCENT: Autonomy Shift Evolution Technology for Long Duration Missions to the Moon and Mars |
| Nicolette Thomas | 64 | Metabolic Engineering of Plants for Detoxification of Martian Regolithic Perchlorate |

## MISSIONS INCLUDING COMMERCIAL *ROOM 120*

| | | |
|---|---|---|
| Robert Cataldo | 65 | Radioisotope Power System Enabled Cube/SmallSat Mission Opportunities Supporting Planetary Science |
| Anthony Colaprete | 66 | Traverse and Observation Planning for the Resource Prospector Mission |
| Michael Collier | 67 | PRISM: Phobos Regolith Ion Sample Mission - Sampling the surface from above the surface without landing… |
| Amanda Cook | 68 | Testing Near-Real-Time Remote Science Operations in the Field: NIRVSS in BASALT. |
| Brian Day | 69 | NASA Solar System Trek Portals for Lunar and Planetary Mapping and Modeling |
| Stijn De Smet | 70 | Harnessing the Sun for Mission Design: A Concept for Deploying Multiple Vehicles to Mars with Different Destinations |
| Richard Elphic | 71 | The Resource Prospector Neutron Spectrometer System: RP's Bloodhound |
| Gwanghyeok Ju | 72 | Guideline Recommendations on Landing Site Selection Criteria for Prospective Korean Lunar Mission |
| N/A | 73 | This poster has been withdrawn |
| Xu Wang | 74 | A Concept of SmallSat Mission for Asteroid Regolith Transport (SMART) |

## ROBOTICS *ROOM 120*

| | | |
|---|---|---|
| Benjamin Hockman | 75 | Autonomous Mobility for Targeted Science on Small Solar System Bodies |
| Benjamin Mellinkoff | 76 | Use of a Telerobotic Simulation System (TSS) for Testing Limitations of Scientific Exploration Due to Frame Rate |
| Christopher Norman | 77 | Design Considerations for Expanding Human Exploration through Telerobotics |
| Matthew Spydell | 78 | Use of a Telerobotic Simulation System for Comparing Low-Latency Teleoperation with Earth to Lunar Farside 2.6 Second Latency Teleoperation |
| Kris Zacny | 79 | The Resource Prospector Drill |

## SOLAR SYSTEM DYNAMICS *ROOM 120*

| | | |
|---|---|---|
| Julien Salmon | 80 | HYDROSyMBA: A 1D HYDROCODE COUPLED TO AN N-BODY INTEGRATOR |

## ASTROPHYSICS-HELIOPHYSICS *ROOM 116*

| | | |
|---|---|---|
| Angelis Alekent | 81 | Optogenetics in the 21st Century |
| Judd Bowman | 82 | Precision Antenna Beam Modeling for Radio Cosmology from the Lunar Far Side |
| Steven Furlanetto | 83 | Probing the Earliest Galaxies with a Lunar Radio Telescope |
| Gregg Hallinan | 84 | Ground and Space-based Prospects for Detecting Radio Emission from Exoplanets |
| Alexander Hegedus | 85 | Low Frequency Solar Observations with Radio Interferometers on the Lunar Surface |
| David Rapetti Serra | 86 | Extracting the global 21-cm signal to study the first luminous objects using observations from the Lunar Farside |
| William Sparks | 87 | Advancing our ability to investigate habitable worlds using exploration capabilities |
| Keith Tauscher | 88 | Using induced polarization to measure the global 21-cm signal from the lunar farside |

## PLASMA *ROOM 116*

| | | |
|---|---|---|
| Peter Chi | 89 | Lunar Remanent Magnetic Field Interaction with the Solar Wind: Implications from Restored Apollo Data |
| Keenan Hunt-Stone | 90 | DREAM2: Using Apollo Data to Characterize the Lunar Environment |
| Li Hsia Yeo | 91 | Experimental Simulation of Solar Wind Interaction with Magnetic Dipole Fields above Insulating Surfaces |

## RADIATION *ROOM 116*

| | | |
|---|---|---|
| Andrew Jordan | 92 | How dielectric breakdown weathering may contribute to the lunar exosphere |
| Parvathy Prem | 93 | Simulations of Volatile Transport in the Aftermath of a Lunar Comet Impact **(Volatiles: Late Poster Addition)** |
| Philip Metzger | 94 | Reduced Compaction of Regolith in the Lunar Polar Regions **(Dust/Regolith: Late Poster Addition)** |